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South Carolina Water Use Report 1999 and 2000 Summary Data Compilation

June 2002

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Forward

The South Carolina Department of Health and Environmental Control (DHEC) is committed to responsible management of the State's water resources to ensure continued conservation, wise use and sustainable supply for current and future demands. The South Carolina Surface Water Withdrawal and Reporting Act, 49-4-10 et. seq., and the South Carolina Groundwater Use and Reporting Act, 49-5-10 et. seq., requires water users that withdraw three (3) million gallons or greater in any month to register with and report that use annually to DHEC.

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Introduction

Historically, most South Carolinians have considered the available fresh water supply as cheap, clean, abundant, attainable and, for all practical purposes, inexhaustible. At the time of this report, South Carolina has experienced a fourth consecutive year with documented rainfall deficit, which has placed extreme pressure on shallow groundwater systems and some surface water supplies. With limited recharge, groundwater systems and surface water bodies under continuous natural discharge and human use (pumpage) have shown steady water level declines with numerous shallow pond systems going dry. Some homeowners relying on shallow water wells have been forced to drill deeper wells or seek alternate sources of water supply. In conjunction with natural conditions, the continued impact to groundwater systems through human induced contamination (physical and chemical) or natural impact (radiological, saltwater intrusion) demonstrate the vulnerability of the resource and the need to closely monitor, manage and preserve the resource in South Carolina for current and future generations. The state General Assembly declared, among other things, that the groundwater resources of the State be put to beneficial use to the fullest extent to which they are capable and to provide and maintain conditions which are conducive to the development and use of (all) water resources.

Consistent and accurate data collection is requisite in establishing water use trends and implementing reasonable management strategies. Water use reporting outside of designated Capacity Use Areas has been historically voluntary. As of January 1, 2001, anyone withdrawing groundwater or surface water in excess of three (3) million gallons per month (in any month) must register and report that use annually to the South Carolina Department of Health and Environmental Control (Department). Registration and reporting is now a requirement of law and the Department has authority to take enforcement action against those not reporting.

Purpose and Methodology

The purpose of the *South Carolina Water Use Report* is to summarily present reported water use in South Carolina by county and use category during calendar years 1999 and 2000. Water use data were collected by quarterly reporting of water use by permitted and registered users. Use is reported in million gallons per month. The Department maintains the water use databases utilized in this report.

Terminology

Aquifer – A geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Aquaculture water use (water use category) – Water used for raising, farming and/or harvesting of organisms that live in water, such as fish, shrimp and other shellfish and vegetal matter (seaweed).

Consumptive water use – The amount of water withdrawn that is evaporated, transpired, incorporated into products or crops, consumed by humans or livestock, or otherwise removed from the immediate water environment.

Effluent (wastewater) – Water conveyed out of a wastewater treatment facility or other works used for the purpose of treating, stabilizing, or holding wastewater.

Evapotranspiration – Collective term, including water discharged to the atmosphere as a result of evaporation from the soil and surface-water bodies and plant transpiration.

Farm – Any operation from which \$1000.00 or more of agricultural products were sold or normally would be sold during the year.

Golf course irrigation (water use category) – Water applied to maintain golf course turf, including tee boxes, fairways, putting greens, associated practice areas and periphery aesthetic landscaping.

Groundwater – Generally, all subsurface water as distinct from surface water; specifically, that part of the subsurface water in the saturated zone.

Hydroelectric water use (water use category) – Water used in generating electricity where turbine generators are driven by falling water.

Industrial water use (water use category) – Water used for commercial and industrial purposes, including fabrication, processing, washing, in-plant conveyance and cooling.

Irrigated acreage – Acreage capable of being irrigated, with regard to availability of water, suitable soils and topography of land.

Irrigation water use (water use category) – Water that is used for agricultural and landscaping purposes including turf farming and livestock management.

Other use (water use category) – Any use of surface water or groundwater not specifically identified in any of the other categories.

Reclaimed water – Wastewater treatment plant effluent that has been diverted, intercepted, or otherwise conveyed for use before it reaches a natural waterway or aquifer.

Surface water – Water flowing or stored on the earth's surface such as a stream, lake, or reservoir.

Thermoelectric water use (water use category) – Water used in generating electricity from fossil fuel (coal, oil, natural gas), geothermal, biomass, solid waste, or nuclear energy.

Water supply (water use category) – Water withdrawn by public and private water suppliers and conveyed to users or groups of users. Water suppliers provide water for a variety of uses including domestic, commercial, industrial and public water use.

Water usage rates – As utilized in this report, measurements to quantitatively represent withdrawal over time; as in gallons per minute (gpm), gallons per day (gpd) and gallons per year (gpy).

Water use – Generally, water that is used for a specific purpose (i.e., domestic use, industrial, etc.). Broadly, human interaction with and influence on the hydrologic cycle, and includes water withdrawal, distribution, consumptive use, wastewater collection and return flow.

Withdrawal – The removal of surface water or groundwater from the natural hydrological system for use, including, but not limited to, water supply, industrial use, commercial use, domestic use, irrigation, livestock, power generation.

South Carolina Climate

The climate of South Carolina is classified as humid subtropical except in the Blue Ridge physiographic province, where it is humid continental. The subtropical climate arises from the state's location in the northern mid-latitudes, proximity of the warm Gulf Stream current in the Atlantic Ocean and the Appalachian Mountains, which screen out cold air masses from the interior of the continent. Average temperature varies from the mid-50's in the mountains to low-60's along the coast. All months are humid with greater precipitation occurring in late winter and again in summer. The average annual precipitation is approximately 48 inches, with an annual total in the mountains of 70 to 80 inches, an annual total in the Midlands of 42 to 47 inches and an annual total along the coast of 50 to 52 inches. Precipitation totals were 54.96 inches in 1997, 54.85 inches in 1998, 44.25 inches in 1999 and 42.37 inches in 2000. Measurable snowfall is rare, occurring one to three times a year with accumulations seldom remaining more than a day or two. Since 1900 severe droughts have occurred statewide in 1925, 1933, 1954, 1977, 1983, 1986, 1990 and 1993 or approximately every eight (8) years. The most severe drought occurred in 1986. Figure 1 presents precipitation data for the years 1997 through 2000.

(Climate data interpreted from the South Carolina Department of Natural Resources, State Climatologist)

South Carolina Precipitation Data 1997 – 2000

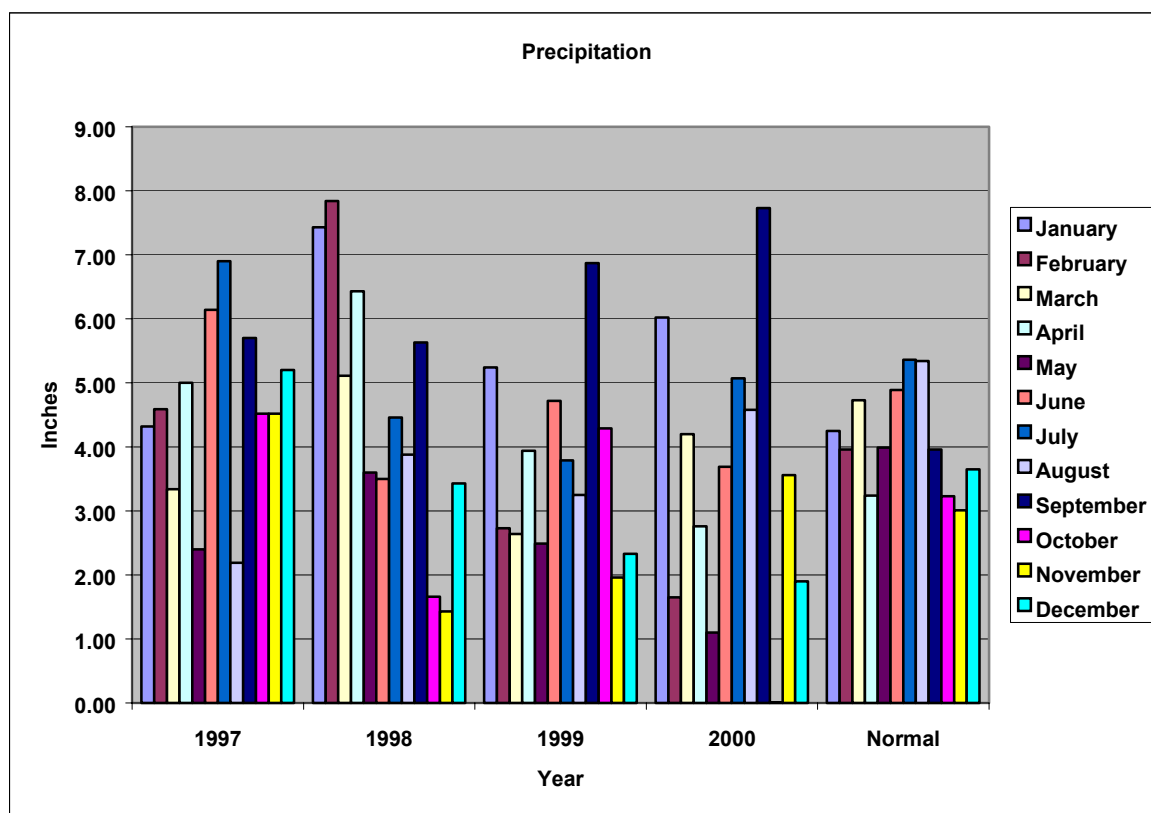


Figure 1 (adapted from National Oceanic and Atmospheric Administration, South Carolina Climate Summary)

South Carolina Geography and Hydrogeology

South Carolina has a varied and diverse geography over a land area of 31,189 square miles covering three major physiographic regions: the Blue Ridge, the Piedmont and the Coastal Plain (Figure 2). Total land area is approximately 30,111 square miles and approximately 1,078 square miles are inland or coastal waterways. Elevation ranges from 3,584 feet above sea level at Sassafras Mountain to sea level along the coast.

Blue Ridge

The Blue Ridge physiographic province is located in the extreme northwest portion of Oconee and Pickens counties (Figure 2). The Blue Ridge is the eastern split of the Appalachian mountain chain and extends from northeast Georgia up through central Virginia. Geology of the Blue Ridge is typically described as metasedimentary and metavolcanic rocks overthrusting crystalline basement rock and having undergone multiple periods of deformation. Hydrogeology of the Blue Ridge is characterized by a unit (mantle) of clayey to sandy saprolite, ranging in depth from several feet to tens of feet, overlying crystalline rock. The saprolite, developed from in-situ weathering of the underlying crystalline basement rock, typically demonstrates high porosity and low permeability resultant from relatively high clay content. The saprolite generally grades downward through a highly permeable transition zone to unaltered parent bedrock. Isolated zones of higher permeability within the saprolite are associated with remnant structures such as fractures, dikes, or foliations. Groundwater conditions of the bedrock are dependent on the number of fractures and degree of interconnection of the fracture systems. Groundwater moves slowly through the saprolite and discharges to surface water bodies, wells, or is released from storage to the underlying bedrock through fractures. Differences in lithology of parent material and degrees of metamorphism and tectonic histories directly affect the hydraulic properties and characteristics of both units.

Piedmont

The Piedmont physiographic province includes all counties, or portions of counties, northwest of and to the Fall Line (Figure 2). Geology of the Piedmont is typically described as parallel bands (belts or terranes) of metasedimentary and metavolcanic rocks that have undergone various metamorphic episodes. The differing belts or terranes are generally characterized by the extent and degree of metamorphism (low to high grade). Hydrogeology of the Piedmont is developed similarly to that of the Blue Ridge, but the diminished relief allows for greater saprolite development. The dominant geology of a given belt or terrane will directly influence the hydraulic characteristic of a given locality; granular metamorphic rock would weather to a more porous and permeable saprolite, while phyllitic and schistostic metamorphic rock would weather to a more clay rich less permeable saprolite.

Coastal Plain

The Coastal Plain physiographic province includes all counties, or portions of counties, extending from the *Fall Line* east of and to the Atlantic Ocean (Figure 2). Geology of the Coastal Plain is typically described as a wedge of unconsolidated to consolidated sediments, deposited from fluvial to marine environments, increasing in thickness from contact with the piedmont at the *Fall Line* to the present day shoreline. Accumulated sediment thickness range from approximately 1000 feet at the shore near the North Carolina boundary to greater than 3000 feet at the shore near the Georgia boundary. Hydrogeology of the Coastal Plain is characterized by aquifers developed in layers of sands and silts or high-permeability limestone confined by units of clay and silts or low-permeability limestone. A generalized cross-section for the Coastal Plain aquifers is presented as Figure 3. The hydraulic characteristics of the Coastal Plain aquifers are determined by composition, thickness, areal extent and relative distance from the outcrop location.

South Carolina Physiographic Provinces

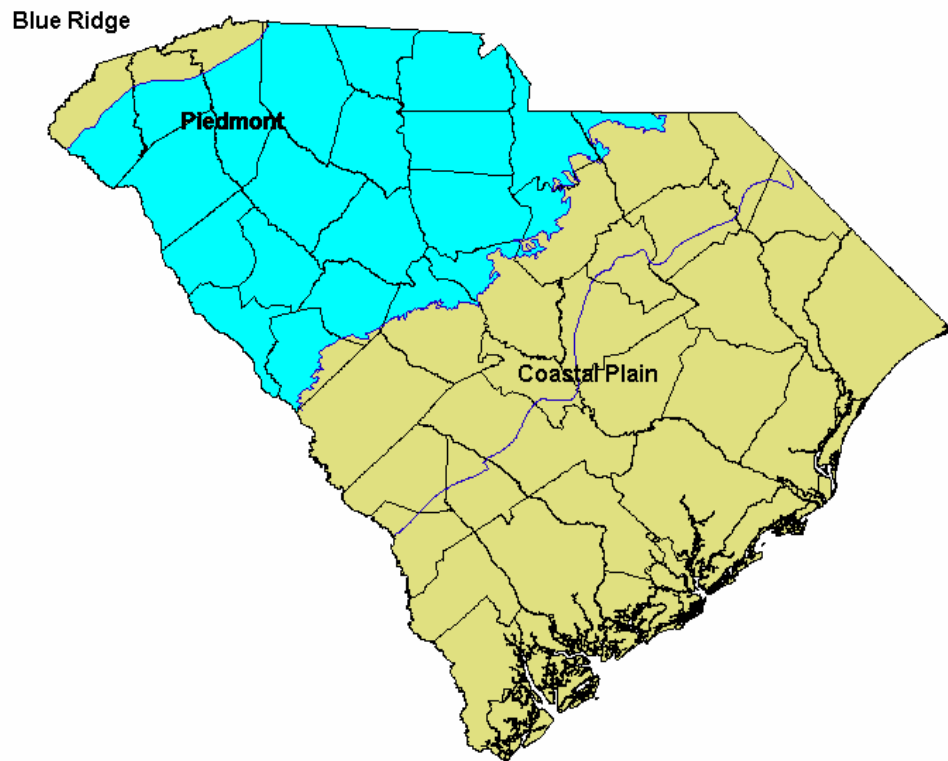


Figure 2

Generalized Cross-Section

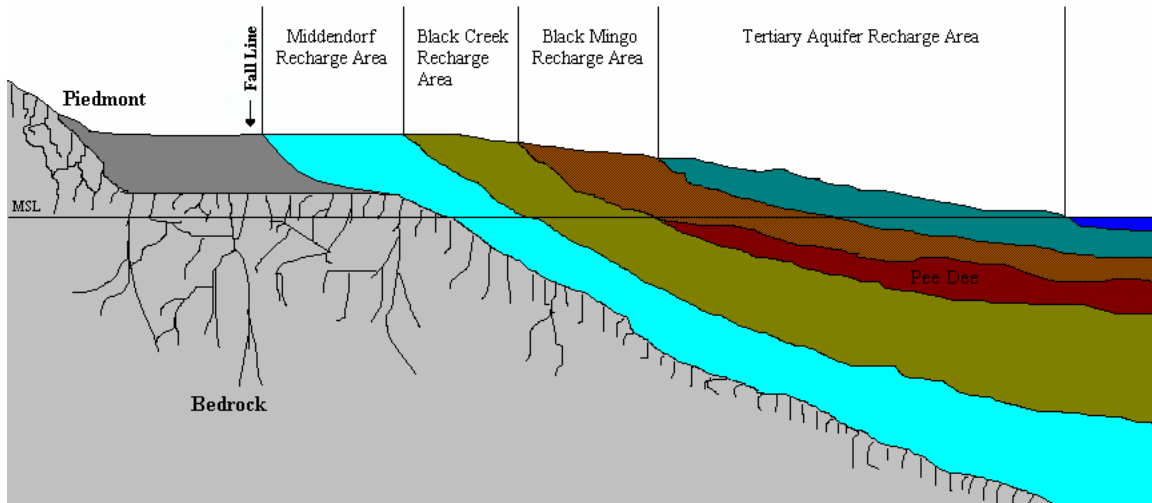


Figure 3

Demographics

According to the 2000 Census, South Carolina's estimated population is 4,012,012. Approximately 54.6% of the population resides in an urban setting and approximately 45.4% reside in rural communities. South Carolina has approximately 25,000 farms, occupying 4,588,000 acres (7,170 square miles). Of this, approximately 2,500,000 acres (3,905 square miles) are cropland with 87,500 acres (137 square miles) irrigated ⁽¹⁾. South Carolina has approximately 94,985 employing businesses of which 1,296 are manufacturing industries. Major manufacturing industries are located along the I-26/I-85 corridor, specifically in the Greenville-Spartanburg Metropolitan Statistical Area (MSA), Columbia MSA, Charlotte-Gastonia-Rock Hill MSA and Charleston MSA. Other manufacturing concentrations are located in the Augusta-Aiken MSA, and the Florence area ⁽²⁾. South Carolina is served by 47 electric utilities and nine (9) generating utility companies with 50 power plants (207 generators) with a total rating capacity of 18,723.8 megawatts. Power production in the State (1999) totaled 87,345 million kilowatt hours ⁽³⁾.

(Source: (1) 1997 Census of Agriculture, Volume 1 Geographic Area Series, "Table 1. County Summary Highlights: 1997."

(2) S.C. Department of Commerce, 2000/2001 "South Carolina Industrial Directory."

(3) S.C. Energy Office "1999 South Carolina Energy Use Profile.")

Reported Water Use 1999 and 2000

Total water use reported for 1999 was more than 14.9 trillion gallons (14,900,241,030,000) from 717 reporting facilities. Surface water withdrawal from 335 facilities accounted for approximately 14.8 trillion gallons (14,796,782,530,000) or approximately 99.30%. Groundwater withdrawal from 382 facilities accounted for more than 103 billion gallons (103,458,500,000) or approximately 0.70%. Total water use reported for 2000 was more than 12.8 trillion gallons (12,841,201,260,000) from 577 reporting facilities. Surface water withdrawal from 266 facilities accounted for more than 12.5 trillion gallons (12,522,190,270,000) or approximately 99.60%. Groundwater withdrawal from 311 facilities accounted for more than 53 billion gallons (53,173,670,000) or approximately 0.40%.

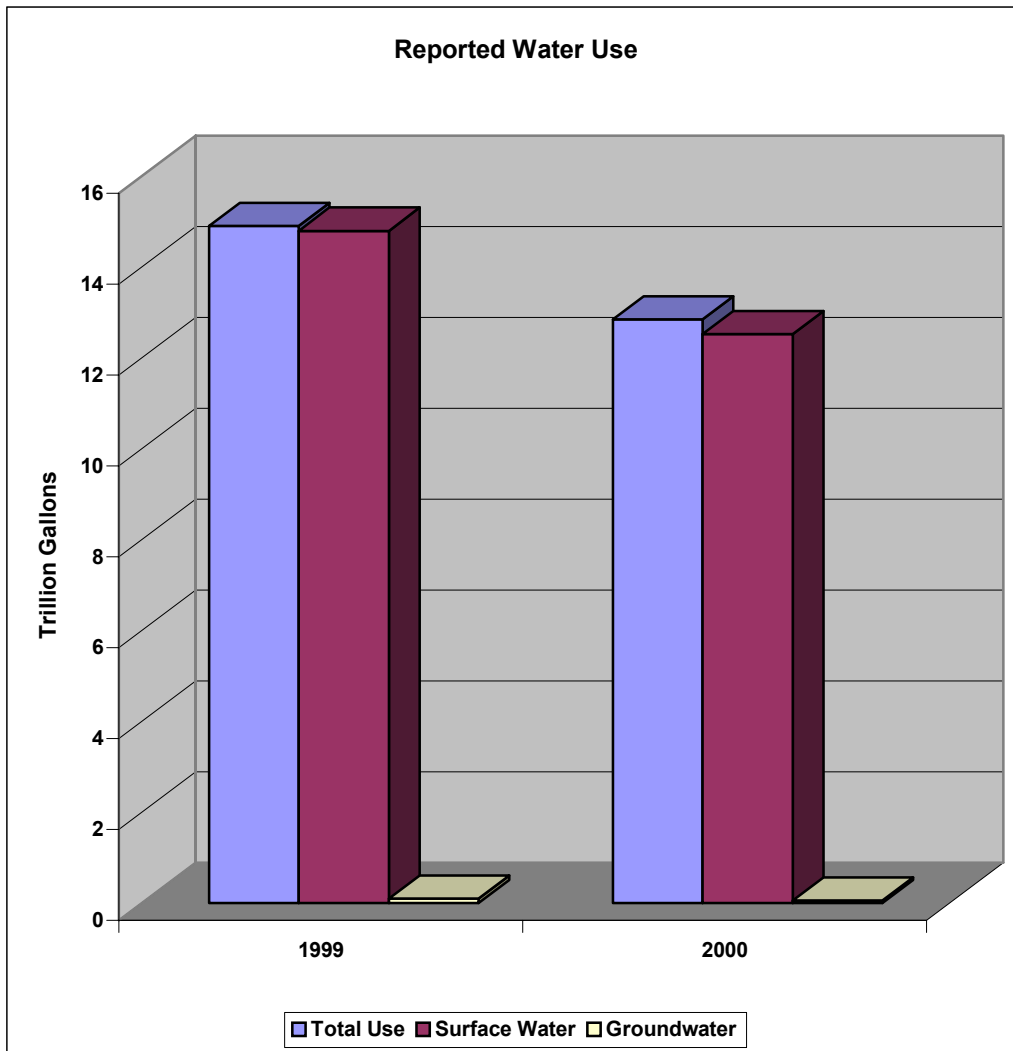


Chart 1

Total Water Use for Power Production

During 1999, reported water use for power production at 36 facilities accounted for more than 14.4 trillion gallons (14,487,270,390,000) or approximately 97.23% of the total use. Of the water use for power production, 14,485,319,870,000 gallons, or approximately 99.99%, was from surface sources and 1,950,520,000 gallons was from groundwater. During 2000, reported water use for power production at 35 facilities accounted for more than 12.5 trillion gallons (12,522,190,270,000) or approximately 97.52% of the total use. Of the water use for power production, 12,520,063,480,000 gallons, or approximately 99.98% was from surface sources and 2,126,800,000 gallons was from groundwater.

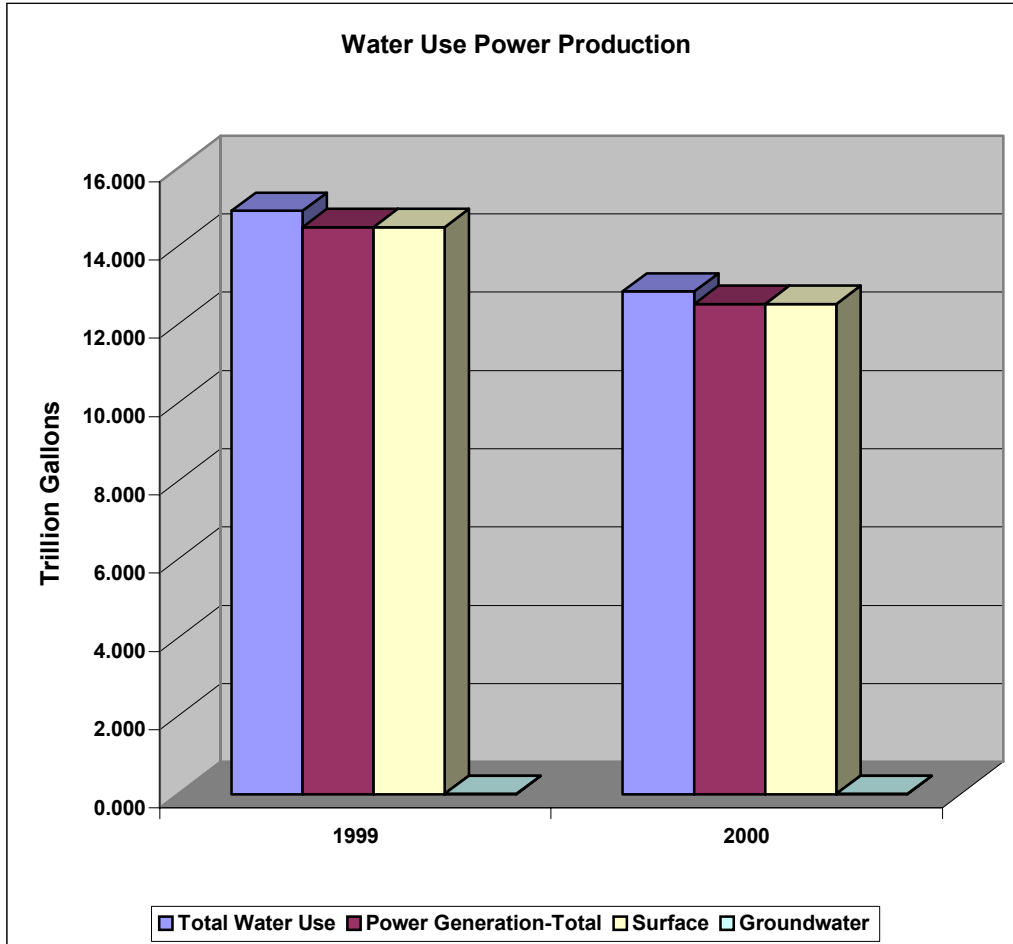


Chart 2

Power Production Water Use Comparison

During 1999, water use at hydroelectric facilities accounted for more than 12.1 trillion gallons (12,160,642,630,000) or approximately 81.61% of all reported water use for the year. Nuclear facilities accounted for more than 1.7 trillion gallons (1,729,691,620,000) or approximately 11.61% of all reported use and thermoelectric facilities accounted for more than 596 billion gallons (596,936,150,000) or approximately 4.01% of all use. During 2000, hydroelectric facilities reported water use of more than 10.2 trillion gallons (10,281,681,910,000) or approximately 80.07% of all use. Nuclear facilities accounted for more than 1.5 trillion gallons (1,514,373,370,000) or approximately 11.79% of all use and thermoelectric facilities accounted for more than 726 billion gallons (726,134,990,000) or approximately 5.65 % of all use.

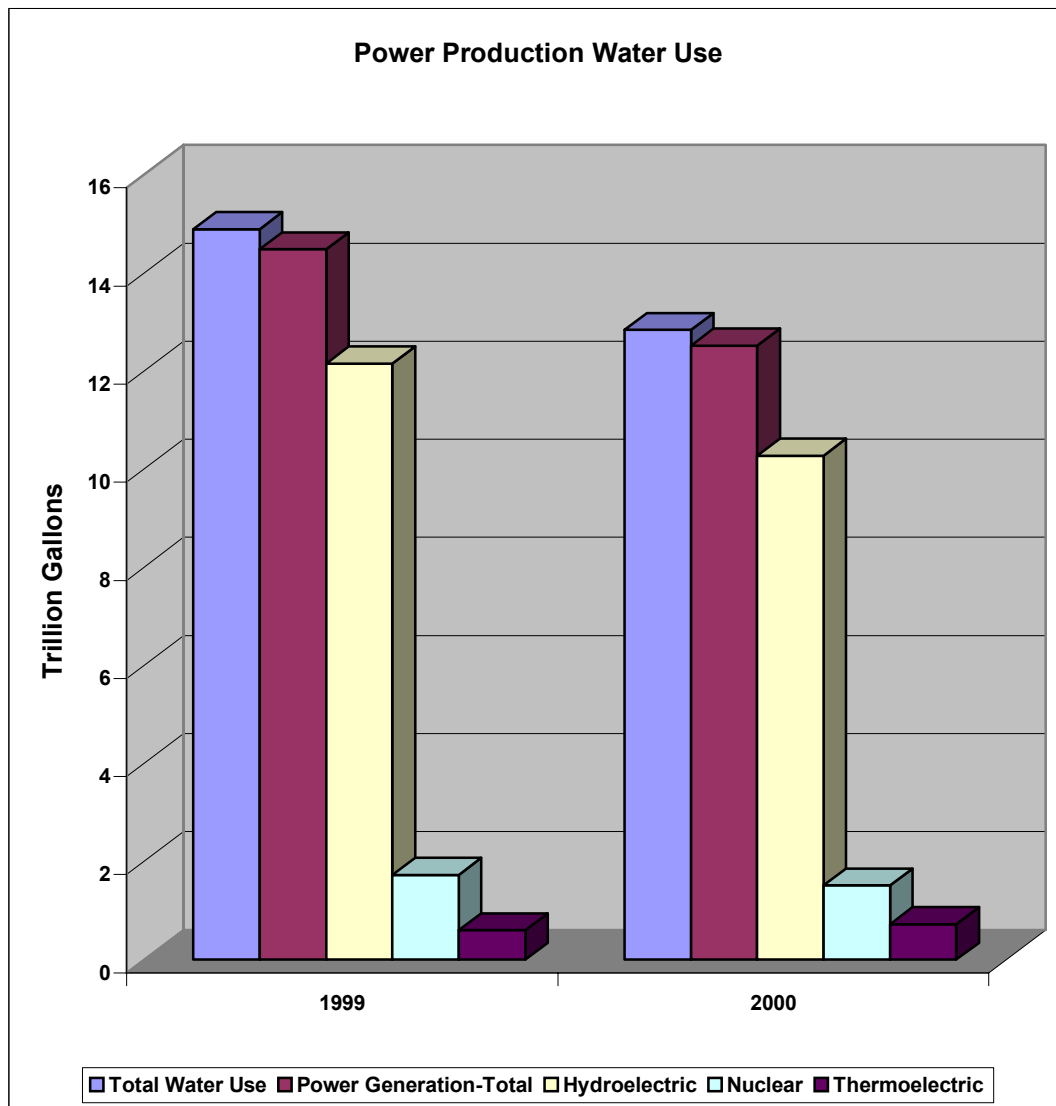


Chart 3

Total Water Use/Non-power

Total Water Use (Non-Power)

During 1999, non-power production water use totaled more than 412 billion gallons (412,970,640,000), with surface water withdrawal accounting for 311,462,650,000 gallons or approximately 75.42% and groundwater withdrawal accounting for 101,507,990,000 gallons or approximately 24.58%. During 2000, non-power production water use totaled more than 319 billion gallons (319,010,990,000), with surface water withdrawal accounting for 267,964,120,000 gallons or approximately 84.00% and groundwater withdrawal accounting for 51,046,870,000 gallons or approximately 16.00%.

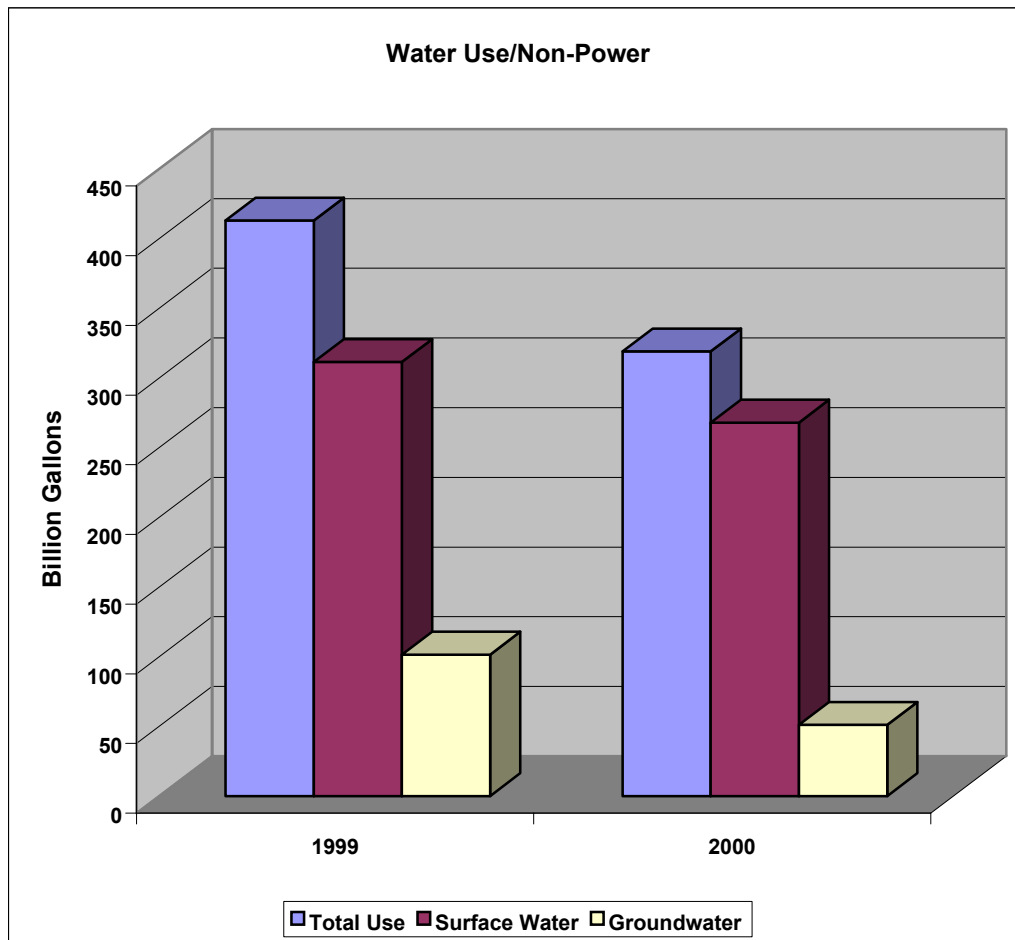


Chart 4

Water Supply

In 1999, water withdrawal for water supply totaled more than 221 billion gallons (221,911,790,000) with surface water sources accounting for 141,136,450,000 gallons and groundwater sources accounting for 80,775,340,000 gallons. In 2000, withdrawal for water supply totaled more than 181 billion gallons (181,189,600,000) with surface water sources accounting for 148,265,220,000 gallons and groundwater sources accounting for 32,924,380,000 gallons.

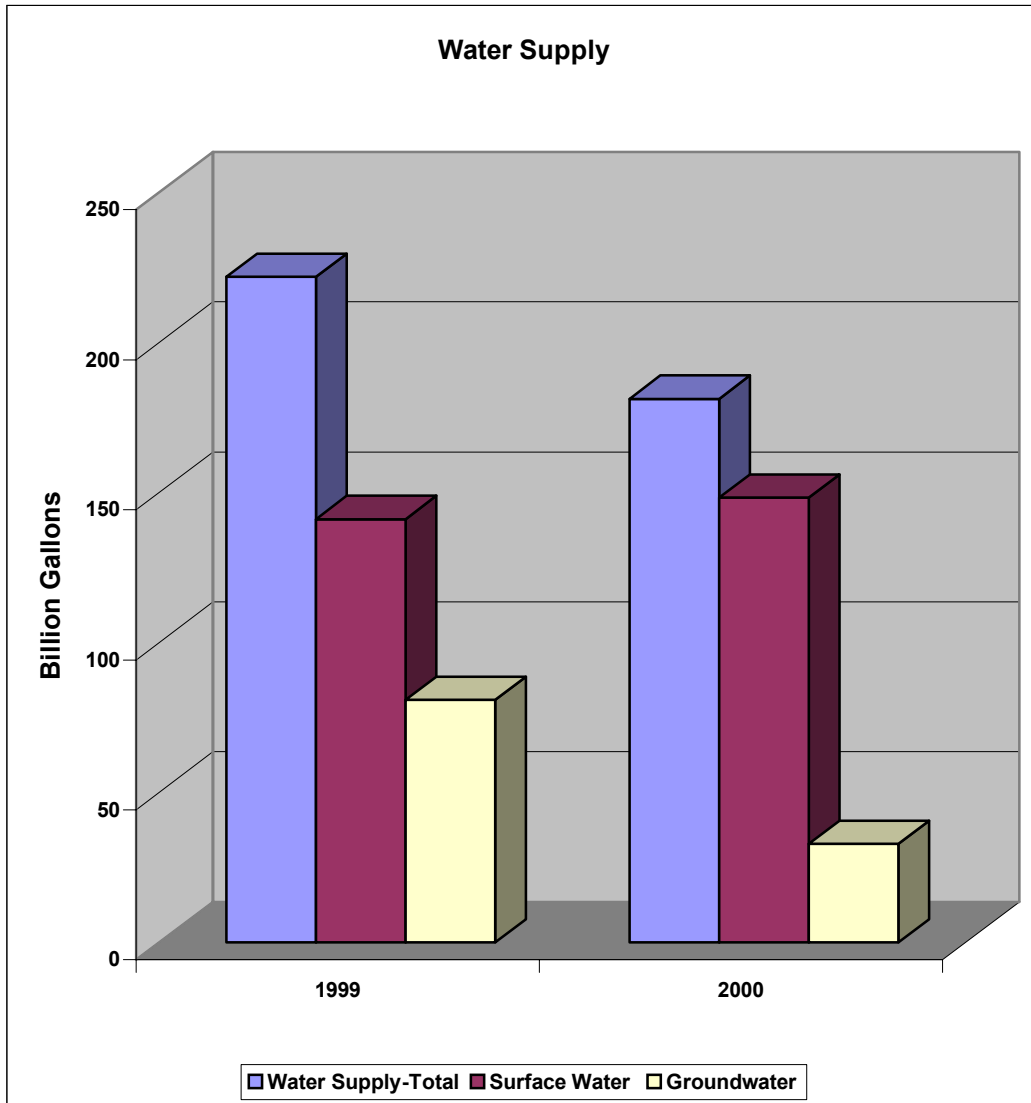


Chart 5

Industrial Use

In 1999, water withdrawal for industrial use totaled more than 172 billion gallons (172,314,140,000) with surface water sources accounting for 160,984,130,000 gallons and groundwater sources accounting for 11,330,010,000 gallons. In 2000, withdrawal for industrial use totaled more than 157 billion gallons (157,463,330,000) with surface water sources accounting for 145,761,530,000 gallons and groundwater sources accounting for 11,701,800,000 gallons.

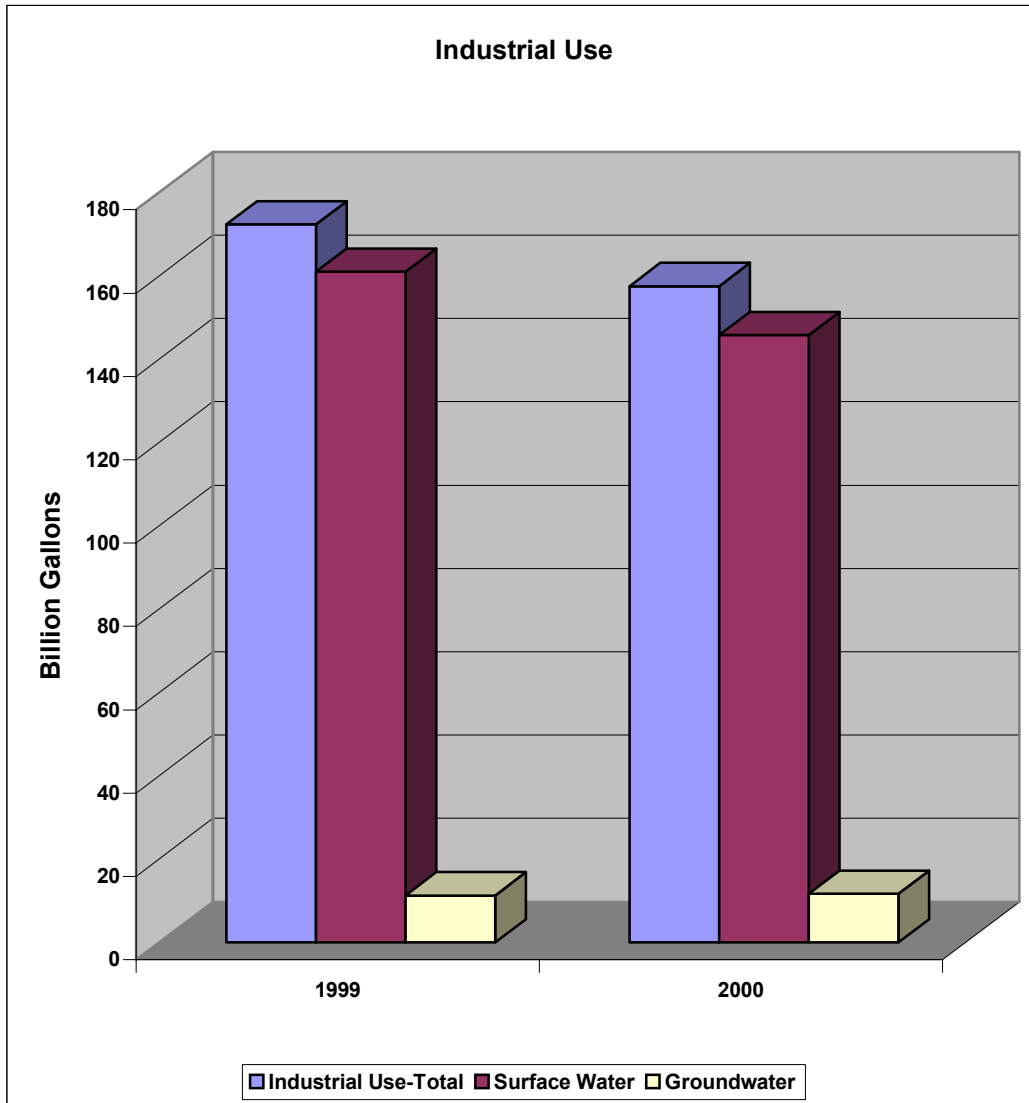


Chart 6

Irrigation Use

In 1999, water withdrawal for irrigation use totaled more than 9 billion gallons (9,470,980,000) with surface water sources accounting for 3,496,700,000 gallons and groundwater sources accounting for 5,974,270,000 gallons. In 2000, withdrawal for irrigation use totaled more than 3 billion gallons (3,182,730,000) with surface water sources accounting for 1,797,650,000 gallons and groundwater sources accounting for 1,385,080,000 gallons.

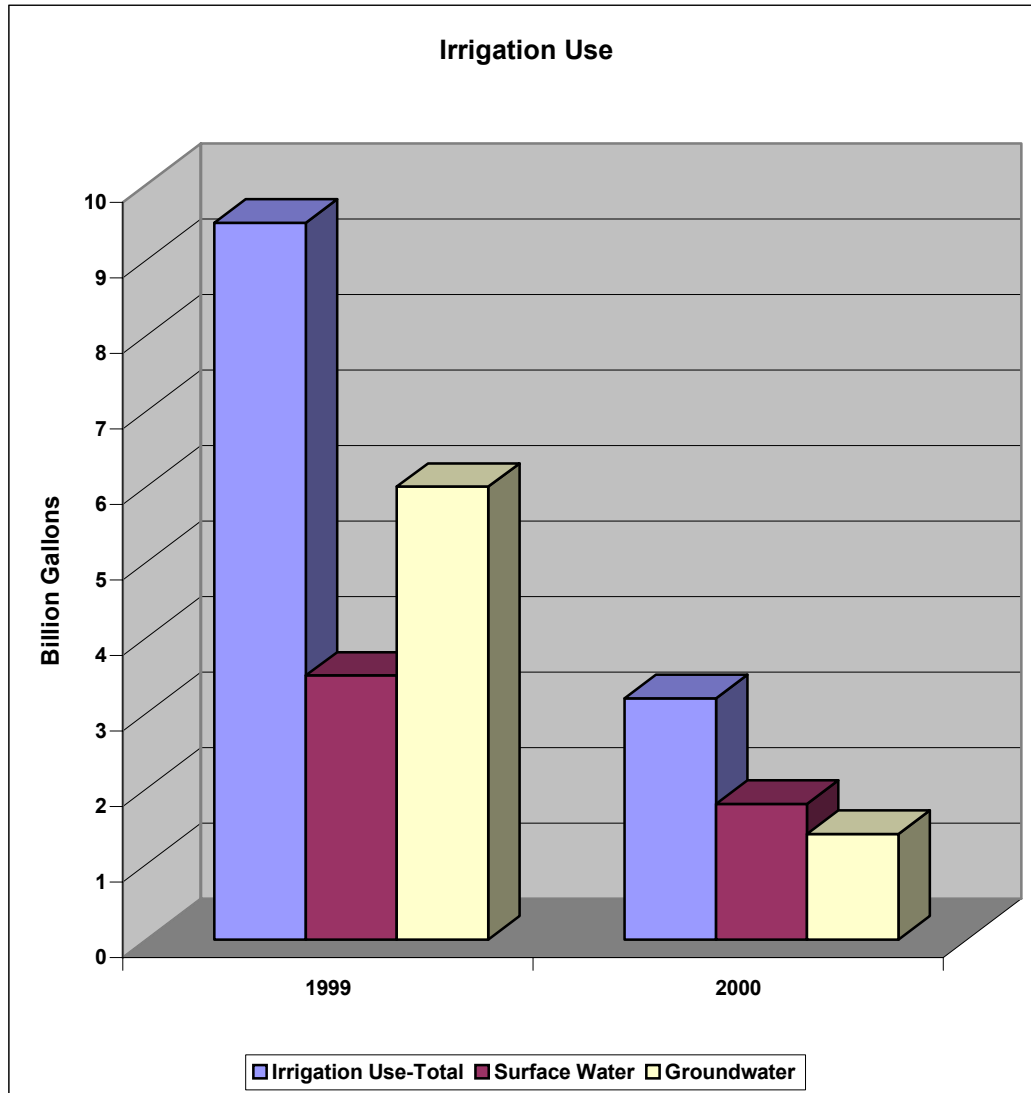


Chart 7

Golf Course Use

In 1999, water withdrawal for golf course irrigation totaled more than 6.3 billion gallons (6,323,770,000) with surface water sources accounting for 4,293,870,000 gallons and groundwater sources accounting for 2,029,900,000 gallons. In 2000, withdrawal for golf course irrigation totaled more than 6.8 billion gallons (6,806,350,000) with surface water sources accounting for 4,625,470,000 gallons and groundwater sources accounting for 2,180,880,000 gallons.

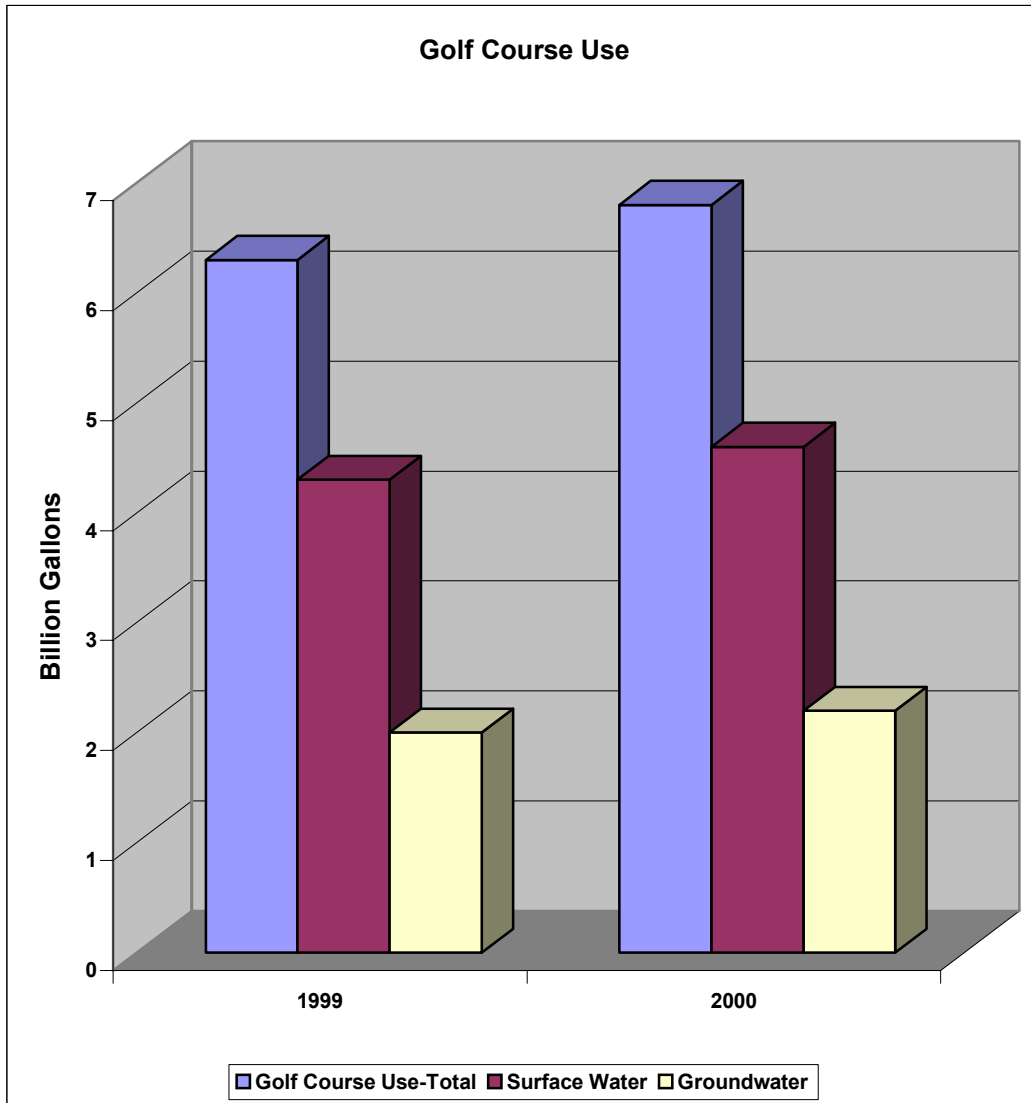


Chart 8

Mining Use

In 1999, water withdrawal associated with mining activities totaled more than 2 billion gallons (2,546,920,000) with reported surface water withdrawal accounting for 1,549,140,000 gallons and groundwater withdrawal accounting for 997,780,000 gallons. In 2000, withdrawal for mining activities totaled more than 3 billion gallons (3,056,080,000) with reported surface water withdrawal accounting for 438,630,000 gallons and groundwater withdrawal accounting for 2,617,450,000 gallons.

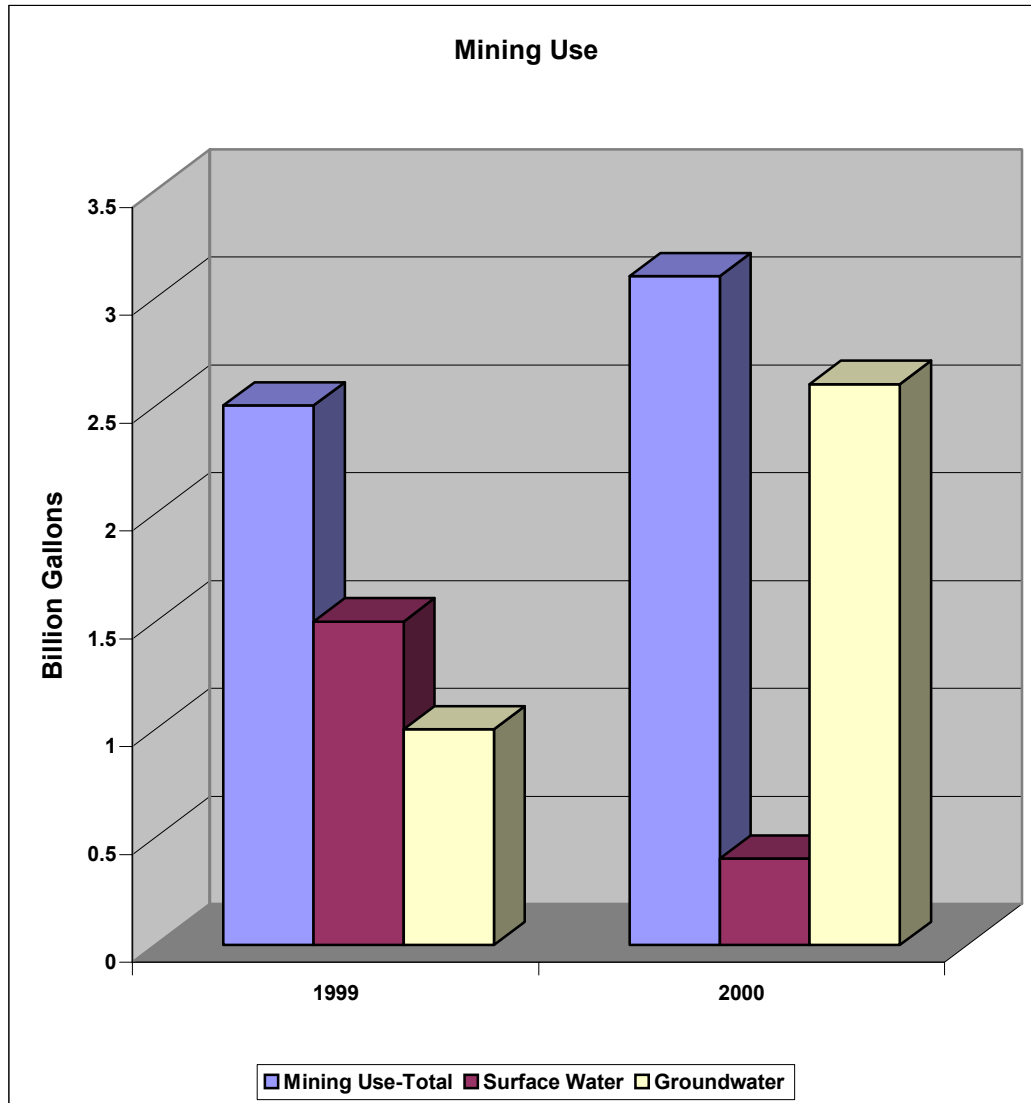


Chart 9

Aquaculture Use

In 1999, water withdrawal for aquaculture farming totaled more than 35 million gallons (35,97000,000) with all reported withdrawal from groundwater sources. In 2000, withdrawal for aquaculture activities totaled more than 13 million gallons (13,670,000) with all reported withdrawal from groundwater sources.

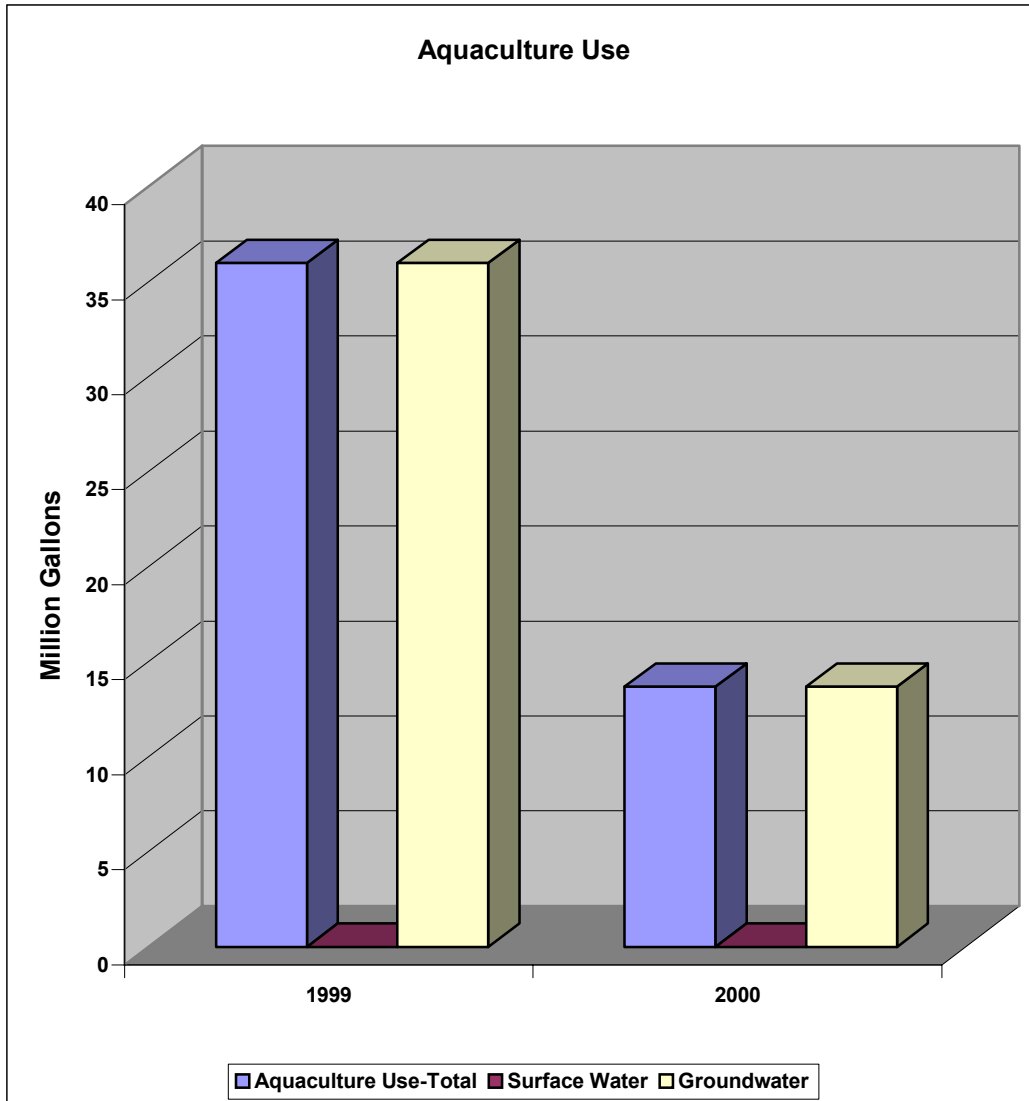


Chart 10

Other Use

In 1999, water withdrawal for other, non-specific uses totaled more than 367 million gallons (367,060,000) with surface water sources accounting for 2,350,000 gallons and groundwater sources accounting for 364,710,000 gallons. In 2000, water withdrawal for other uses totaled more than 223 million gallons (223,610,000) with all reported withdrawal from groundwater sources.

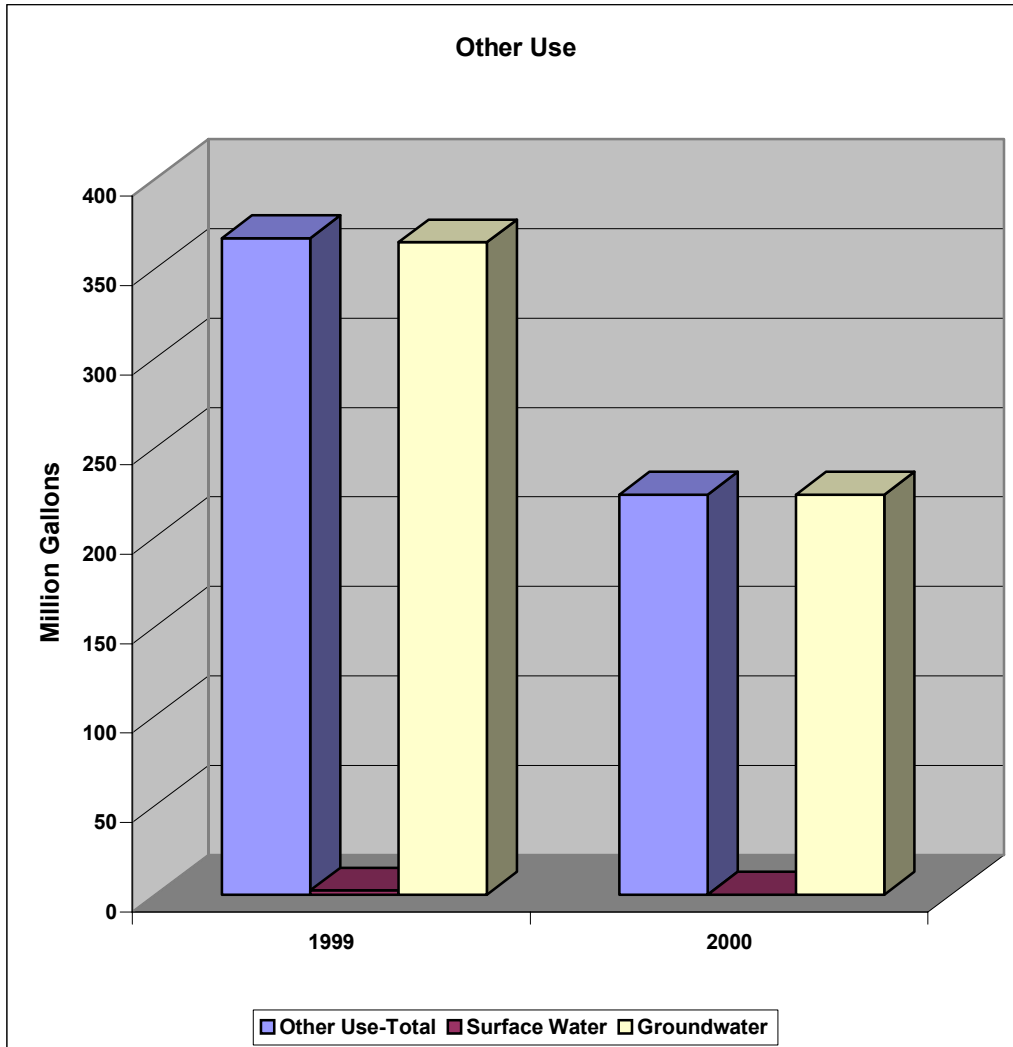


Chart 11

*1999 Surface Water Use by County
(in million gallons)*

County	Hydro- electric	Nuclear	Thermo- electric	Water Supply	Industri al	Irrigati on	Golf Cours e	Mining	Aqua - cultur e	Oth er
Abbeville	400,196.73	0.00	0.00	1,228.30	137.98	0.00	0.00	0.00	0.00	0.00
Aiken	0.00	0.00	55,975.8 2	2,305.37	27,901.4 3	38.60	13.25	0.00	0.00	0.00
Allendale	0.00	0.00	0.00	0.00	0.00	218.68	0.00	0.00	0.00	0.00
Anderson	534,371.09	0.00	0.00	7,874.59	54.77	29.16	0.00	0.00	0.00	0.00
Bamberg	0.00	0.00	0.00	0.00	0.00	247.90	0.00	0.00	0.00	0.00
Barnwell	0.00	0.00	0.00	0.00	0.00	0.00	36.40	0.00	0.00	0.00
Beaufort	0.00	0.00	0.00	117.41	0.00	22.46	1,295. 34	0.00	0.00	0.00
Berkeley	1,101,592.9 8	0.00	219,979. 96	2.84	4,355.37	4.32	26.00	0.00	0.00	0.00
Calhoun	0.00	0.00	0.00	0.00	31,261.7 3	155.66	0.00	0.00	0.00	0.00
Charleston	0.00	0.00	0.00	20,381.9 0	9,250.83	0.06	45.69	0.00	0.00	0.00
Cherokee	340,693.00	0.00	0.00	4,903.42	773.00	16.68	0.00	0.00	0.00	0.00
Chester	1,644,995.0 0	0.00	0.00	1,342.99	200.06	0.00	0.00	0.00	0.00	0.00
Chesterfiel d	0.00	0.00	0.00	1,820.60	24.75	0.00	32.50	0.00	0.00	0.00
Clarendon	0.00	0.00	0.00	0.00	0.00	96.20	0.00	0.00	0.00	0.00
Colleton	0.00	0.00	1,155.29	0.00	0.00	0.00	125.62	282.80	0.00	0.00
Darlington	0.00	3,201.15	0.00	0.00	4,073.46	10.69	0.00	0.00	0.00	0.00
Dillon	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dorcheste r	0.00	0.00	0.00	0.00	170.64	0.00	0.00	0.00	0.00	0.00
Edgefield	970,869.40	0.00	0.00	1,349.96	0.00	108.42	0.00	0.00	0.00	0.00
Fairfield	2,174,707.5 0	298,190.7 4	0.00	469.22	0.00	0.00	0.00	0.00	0.00	0.00
Florence	0.00	0.00	0.00	0.00	12,318.4 0	0.00	0.00	0.00	0.00	0.00
Georgetow n	0.00	0.00	3,675.52	0.00	12,235.3 9	0.15	250.16	0.00	0.00	2.35
Greenville	0.00	0.00	0.00	23,140.5 9	0.00	12.00	182.41	0.00	0.00	0.00
Greenwoo d	213,120.00	0.00	63,364.0 0	3,980.42	73.35	0.00	0.00	0.00	0.00	0.00
Hampton	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Horry	0.00	0.00	38,422.6 2	8,670.86	69.29	62.66	1,844. 35	177.60	0.00	0.00
Jasper	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Kershaw	705,475.00	0.00	0.00	1,448.15	1,142.61	0.00	24.00	0.00	0.00	0.00
Lancaster	408,974.00	0.00	0.00	3,928.72	1,258.45	0.00	0.00	0.00	0.00	0.00
Laurens	53,988.00	0.00	0.00	1,207.74	83.63	0.00	0.00	0.00	0.00	0.00
Lee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lexington	105,494.20	0.00	53,189.6 6	3,408.12	10,636.9 1	0.00	0.00	0.00	0.00	0.00
Marion	687,144.16	0.00	0.00	450.26	0.00	0.00	5.00	0.00	0.00	0.00
Marlboro	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
McCormic k	0.00	0.00	0.00	462.73	1,941.00	100.33	0.00	0.00	0.00	0.00
Newberry	0.00	0.00	0.00	2,141.52	0.00	0.00	0.00	0.00	0.00	0.00
Oconee	11,816.00	1,427,868. 00	0.00	3,354.27	632.70	0.00	0.00	0.00	0.00	0.00
Orangebur g	0.00	0.00	0.07	2,809.33	142.08	1,551.4 9	2.13	0.00	0.00	0.00
Pickens	1,603,137.0 0	0.00	0.00	6,153.43	536.76	0.00	46.00	0.00	0.00	0.00

Richland	445,867.10	0.00	159,654.92	21,598.56	10,062.81	0.00	86.61	0.00	0.00	0.00
Saluda	0.00	0.00	0.00	0.00	0.00	6.50	0.00	0.00	0.00	0.00
Spartanburg	17,744.02	0.00	0.00	10,935.47	2,077.50	192.17	0.00	0.00	0.00	0.00
Sumter	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00
Union	240,546.93	0.00	0.00	1,608.30	998.71	0.00	16.00	0.00	0.00	0.00
Williamsburg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
York	499,910.00	0.00	0.00	4,044.22	28,570.54	0.00	39.18	0.00	0.00	0.00
Total	12,160,642.11	1,729,259.89	595,417.87	141,136.45	160,984.13	3,496.70	4,293.87	1,549.14	0.00	2.35

Table 1

*1999 Groundwater Use by County
(in million gallons)*

County	Hydro-electric	Nuclear	Thermo-electric	Water Supply	Industrial	Irrigation	Golf Course	Mining	Aqua-culture	Other
Abbeville	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aiken	0.00	0.00	0.00	4,118.39	2,167.24	309.80	0.00	0.00	0.00	0.00
Allendale	0.00	0.00	0.00	104.98	674.47	2,351.29	0.00	0.00	0.00	0.00
Anderson	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bamberg	0.00	0.00	0.00	405.47	0.00	211.91	0.00	0.00	0.00	0.00
Barnwell	0.00	0.00	0.00	940.15	0.00	0.00	0.00	0.00	0.00	0.00
Beaufort	0.00	0.00	0.00	4,871.32	146.03	323.84	1,147.14	0.00	15.13	197.69
Berkeley	0.51	0.00	3.28	2.84	1,013.93	4.32	11.00	597.55	0.00	0.00
Calhoun	0.00	0.00	0.00	42.10	155.44	40.25	0.00	0.00	0.00	0.00
Charleston	0.00	0.00	0.00	2,205.54	110.43	19.15	51.09	0.00	0.00	0.00
Cherokee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chester	0.00	0.00	0.00	0.00	1.63	0.00	0.00	0.00	0.00	0.00
Chesterfield	0.00	0.00	0.00	77.19	0.00	0.00	0.00	0.00	0.00	0.00
Clarendon	0.00	0.00	0.00	494.84	0.00	0.00	0.00	0.00	0.00	0.00
Colleton	0.00	0.00	0.00	44,232.92	0.00	12.70	6.57	0.00	0.00	0.00
Darlington	0.00	431.73	0.00	2,383.26	1,444.87	7.40	0.78	0.00	0.00	0.00
Dillon	0.00	0.00	0.00	1,730.69	0.00	28.10	0.00	0.00	15.84	0.00
Dorchester	0.00	0.00	0.00	153.95	775.41	0.00	4.34	0.00	0.00	0.00
Edgefield	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.00
Fairfield	0.00	0.00	0.00	17.10	0.00	0.00	0.00	13.84	0.00	0.00
Florence	0.00	0.00	0.00	5,291.97	661.27	0.00	0.00	0.00	0.00	0.00
Georgetown	0.00	0.00	0.00	1,920.64	59.71	0.00	8.76	0.00	0.00	0.00
Greenville	0.00	0.00	0.00	0.00	7.61	0.00	7.36	0.00	0.00	0.00
Greenwood	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00
Hampton	0.00	0.00	0.00	421.35	316.40	77.40	0.00	0.00	0.00	0.00
Horry	0.00	0.00	0.00	1,054.89	84.03	434.38	770.86	0.00	0.00	167.02
Jasper	0.00	0.00	0.00	427.31	0.00	424.93	0.00	0.00	5.00	0.00
Kershaw	0.00	0.00	0.00	551.86	385.64	0.00	22.00	0.00	0.00	0.00
Lancaster	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Laurens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lee	0.00	0.00	0.00	531.81	0.00	0.00	0.00	0.00	0.00	0.00
Lexington	0.00	0.00	0.00	272.14	144.65	236.06	0.00	0.00	0.00	0.00
Marion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marlboro	0.00	0.00	0.00	1,759.24	7.36	0.00	0.00	0.00	0.00	0.00

McCormick	0.00	0.00	0.00	503.67	261.17	225.46	0.00	0.00	0.00	0.00
Newberry	0.00	0.00	0.00	29.55	0.00	9.30	0.00	0.00	0.00	0.00
Oconee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Orangeburg	0.00	0.00	1,504.22	334.96	952.13	784.54	0.00	385.13	0.00	0.00
Pickens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland	0.00	0.00	10.78	4.69	658.20	0.00	0.00	0.00	0.00	0.00
Saluda	0.00	0.00	0.00	0.00	79.52	0.48	0.00	0.00	0.00	0.00
Spartanburg	0.00	0.00	0.00	0.00	5.24	0.00	0.00	0.00	0.00	0.00
Sumter	0.00	0.00	0.00	5,306.23	345.29	456.37	0.00	0.00	0.00	0.00
Union	0.00	0.00	0.00	0.00	9.84	0.00	0.00	0.00	0.00	0.00
Williamsburg	0.00	0.00	0.00	526.59	862.50	15.80	0.00	0.00	0.00	0.00
York	0.00	0.00	0.00	57.71	0.00	0.00	0.00	1.26	0.00	0.00
Total	0.51	431.73	1,518.28	80,775.34	11,330.01	5,974.27	2,029.90	997.78	35.97	364.71

Table 2

*2000 Surface Water Use by County
(in million gallons)*

County	Hydro- electric	Nuclear	Thermo- electric	Water Supply	Industria l	Irrigati on	Golf Cours e	Minin g	Aqua - cultur e	Oth er
Abbeville	12.38	0.00	0.00	832.20	29.60	0.00	0.00	0.00	0.00	0.00
Aiken	0.00	0.00	55,739.4 9	1,473.53	24,920.5 6	0.00	21.35	0.00	0.00	0.00
Allendale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Anderson	94,442.00	0.00	0.00	4,582.08	70.98	0.00	13.99	0.00	0.00	0.00
Bamberg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barnwell	0.00	0.00	0.00	0.00	0.00	0.00	12.10	0.00	0.00	0.00
Beaufort	0.00	0.00	0.00	132.63	0.00	20.36	1,227. 14	0.00	0.00	0.00
Berkeley	1,183,784.5 3	0.00	207,121. 52	0.00	2,935.35	0.00	11.00	0.00	0.00	0.00
Calhoun	0.00	0.00	0.00	0.00	32,232.0 8	0.00	0.00	0.00	0.00	0.00
Charleston	0.00	0.00	0.00	16,991.9 7	8,768.61	0.00	52.94	0.00	0.00	0.00
Cherokee	284,648.00	0.00	0.00	1,323.99	764.70	0.00	0.00	0.00	0.00	0.00
Chester	1,239,044.0 0	0.00	0.00	959.40	182.05	0.00	0.00	0.00	0.00	0.00
Chesterfiel d	0.00	0.00	0.00	1,187.67	21.60	0.00	2.14	0.00	0.00	0.00
Clarendon	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Colleton	0.00	0.00	1,301.66	0.00	0.00	0.00	70.36	77.10	0.00	0.00
Darlington	0.00	2,718.39	0.00	0.00	5,143.74	80.00	38.50	0.00	0.00	0.00
Dillon	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dorchester	0.00	0.00	0.00	0.00	175.07	0.00	0.00	0.00	0.00	0.00
Edgefield	736,287.60	0.00	0.00	1,366.66	0.00	0.00	400.00	0.00	0.00	0.00
Fairfield	2,312,559.0 0	244,945.3 4	0.00	516.06	0.00	0.00	0.00	0.00	0.00	0.00
Florence	0.00	0.00	0.00	0.00	9,833.70	0.00	20.00	0.00	0.00	0.00
Georgetow n	0.00	0.00	3,205.19	0.00	11,970.2 2	0.58	145.98	0.00	0.00	0.00
Greenville	0.00	0.00	0.00	24,455.7 7	0.00	0.00	461.49	0.00	0.00	0.00

Greenwood	171,405.00	0.00	52,221.00	5,336.35	10.33	12.70	0.00	0.00	0.00	0.00
Hampton	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Horry	0.00	0.00	37,778.17	6,075.10	13.45	79.54	1,600.27	133.20	0.00	0.00
Jasper	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kershaw	699,352.00	0.00	0.00	1,645.72	1,142.37	12.00	0.00	0.00	0.00	0.00
Lancaster	527,330.00	0.00	0.00	3,162.37	1,708.85	0.00	0.00	0.00	0.00	0.00
Laurens	71,370.00	0.00	0.00	1,514.76	17.31	0.00	0.00	0.00	0.00	0.00
Lee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lexington	336,582.80	0.00	58,239.79	1,357.92	10,723.65	871.47	34.00	0.00	0.00	0.00
Marion	0.00	0.00	0.00	202.52	0.00	0.00	0.00	0.00	0.00	0.00
Marlboro	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
McCormick	0.00	0.00	0.00	442.07	1,492.00	0.00	0.00	228.33	0.00	0.00
Newberry	0.00	0.00	0.00	1,662.99	0.00	0.00	0.00	0.00	0.00	0.00
Oconee	8,182.00	1,266,275.65	0.00	2,262.34	724.23	0.00	0.00	0.00	0.00	0.00
Orangeburg	0.00	0.00	0.00	2,252.61	157.35	733.00	57.50	0.00	0.00	0.00
Pickens	1,661,996.80	0.00	0.00	3,715.71	459.89	0.00	288.50	0.00	0.00	0.00
Richland	364,168.90	0.00	308,835.97	18,076.92	10,215.91	0.00	16.85	0.00	0.00	0.00
Saluda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spartanburg	29.66	0.00	0.00	7,207.84	1,667.58	0.00	0.00	0.00	0.00	0.00
Sumter	0.00	0.00	0.00	0.00	0.00	0.00	108.57	0.00	0.00	0.00
Union	107,241.66	0.00	0.00	1,345.53	546.56	0.00	2.00	0.00	0.00	0.00
Williamsburg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
York	483,245.00	0.00	0.00	5,258.14	19,833.80	0.00	28.81	0.00	0.00	0.00
Total	10,281,681.33	1,513,939.38	724,442.77	115,340.83	145,761.53	1,797.65	4,625.47	438.63	0.00	0.00

Table 3

*2000 Groundwater Use by County
(in million gallons)*

County	Hydro-electric	Nuclear	Thermo-electric	Water Supply	Industrial	Irrigation	Golf Course	Mining	Aqua-culture	Other
Abbeville	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aiken	0.00	0.00	0.00	3,206.94	2,265.80	309.80	35.80	41.65	0.00	0.00
Allendale	0.00	0.00	0.00	144.72	586.84	0.00	0.00	0.00	0.00	0.00
Anderson	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bamberg	0.00	0.00	0.00	384.41	0.00	0.00	0.00	0.00	0.00	0.00
Barnwell	0.00	0.00	0.00	489.87	0.00	0.00	0.00	0.00	0.00	0.00
Beaufort	0.00	0.00	0.00	5,517.48	141.64	461.44	1,310.97	0.00	12.77	72.06
Berkeley	0.58	0.00	4.38	2.80	298.42	4.32	0.50	0.00	0.00	0.00
Calhoun	0.00	0.00	0.00	125.90	189.52	0.00	0.00	0.00	0.00	0.00
Charleston	0.00	0.00	0.00	2,289.42	115.58	32.71	87.43	0.00	0.00	0.00
Cherokee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chester	0.00	0.00	0.00	0.00	1.57	0.00	0.00	0.00	0.00	0.00

Chesterfield	0.00	0.00	0.00	15.99	0.00	0.00	0.00	26.71	0.00	0.00
Clarendon	0.00	0.00	0.00	506.68	0.00	0.00	0.00	0.00	0.00	0.00
Colleton	0.00	0.00	0.00	624.81	0.00	31.39	0.00	0.00	0.00	0.00
Darlington	0.00	433.99	0.00	1,276.27	1,475.33	0.00	2.51	0.00	0.00	0.00
Dillon	0.00	0.00	0.00	1,596.25	0.00	0.00	0.00	0.00	0.90	0.00
Dorchester	0.00	0.00	0.00	184.08	768.39	0.00	0.00	0.00	0.00	0.00
Edgefield	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fairfield	0.00	0.00	0.00	21.58	0.00	0.00	0.00	0.00	0.00	0.00
Florence	0.00	0.00	0.00	5,005.41	680.82	0.00	0.00	0.00	0.00	0.00
Georgetown	0.00	0.00	0.00	846.44	68.27	0.00	7.87	0.00	0.00	0.00
Greenville	0.00	0.00	0.00	0.00	8.27	0.00	2.25	0.00	0.00	0.00
Greenwood	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hampton	0.00	0.00	0.00	418.93	446.80	46.80	0.00	0.00	0.00	0.00
Horry	0.00	0.00	0.00	942.26	89.11	116.03	719.45	0.00	0.00	150.55
Jasper	0.00	0.00	0.00	380.67	0.00	398.71	0.00	0.00	0.00	1.00
Kershaw	0.00	0.00	0.00	384.98	785.15	0.00	10.00	0.00	0.00	0.00
Lancaster	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Laurens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lee	0.00	0.00	0.00	516.30	0.00	0.00	0.00	0.00	0.00	0.00
Lexington	0.00	0.00	0.00	66.06	1,177.90	197.15	0.00	574.18	0.00	0.00
Marion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marlboro	0.00	0.00	0.00	1,184.82	13.94	0.00	0.00	0.00	0.00	0.00
McCormick	0.00	0.00	0.00	333.17	215.90	73.20	0.00	0.00	0.00	0.00
Newberry	0.00	0.00	0.00	15.21	0.00	0.00	0.00	0.00	0.00	0.00
Oconee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Orangeburg	0.00	0.00	1,550.22	346.33	537.88	27.65	0.00	1,744.49	0.00	0.00
Pickens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland	0.00	0.00	137.62	0.83	684.86	0.00	0.00	228.35	0.00	0.00
Saluda	0.00	0.00	0.00	0.00	77.47	0.00	0.00	0.00	0.00	0.00
Spartanburg	0.00	0.00	0.00	0.00	7.86	0.00	0.00	0.00	0.00	0.00
Sumter	0.00	0.00	0.00	5,579.44	322.14	0.00	0.00	0.00	0.00	0.00
Union	0.00	0.00	0.00	0.00	8.61	0.00	0.00	0.00	0.00	0.00
Williamsburg	0.00	0.00	0.00	516.35	733.76	0.00	0.00	0.00	0.00	0.00
York	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	0.00	0.00
Total	0.58	433.99	1,692.23	32,924.38	11,701.80	1,385.08	2,180.88	2,617.45	13.67	223.61

Table 4

